# PROFILE SHEET
## Sixth Grade

**Publisher: Glencoe/McGraw-Hill**
**Text/Instructional Material: Glencoe Science Flex Series Bundle, Grade 6, 2002**

| Science Standard | Rating | | |
|---|---|---|---|
| | Adequate | Limited | No Evidence |
| 6.1 | ✓ | | |
| 6.2 | ✓ | | |
| 6.3 | ✓ | | |
| 6.4 | ✓ | | |
| 6.5 | ✓ | | |
| 6.6 | ✓ | | |
| 6.7 | | ✓ | |
| 6.8 | ✓ | | |
| 6.9 | | ✓ | |
| Additional Criteria | | | |
| 6-AC.1 | ✓ | | |
| 6-AC.2 | ✓ | | |
| 6-AC.3 | ✓ | | |
| 6-AC.4 | ✓ | | |
| 6-AC.5 | ✓ | | |

**The Virginia Department of Education recommends to the Board of Education:**

**YES __✓___ NO_____**

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| **Science Standard** | **Rating Scale** Please indicate the rating for each by placing a check mark (✓) in the appropriate cell. | | |
|---|---|---|---|
| | **Adequate** | **Limited** | **No Evidence** |
| 6.1 The student will plan and conduct investigations in which | | | |
| a) observations are made involving fine discrimination between similar objects and organisms; | ✓ | | |
| b) a classification system is developed based on multiple attributes; | ✓ | | |
| c) precise and approximate measurements are recorded; | ✓ | | |
| d) scale models are used to estimate distance, volume, and quantity; | ✓ | | |
| e) hypotheses are stated in ways that identify the independent (manipulated) and dependent (responding) variables; | ✓ | | |
| f) a method is devised to test the validity of predictions and inferences; | ✓ | | |
| g) one variable is manipulated over time with many repeated trials; | ✓ | | |
| h) data are collected, recorded, analyzed, and reported using appropriate metric measurement; | ✓ | | |
| i) data are organized and communicated through graphical representation (graphs, charts, and diagrams); | ✓ | | |
| j) models are designed to explain a sequence; and | ✓ | | |
| k) an understanding of the nature of science is developed and reinforced. | ✓ | | |
| **Overall Rating for Standard** | ✓ | | |

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|---|---|---|---|
| | **Adequate** | **Limited** | **No Evidence** |
| 6.2 The student will investigate and understand basic sources of energy, their origins, transformations, and uses. Key concepts include | | | |
| a) potential and kinetic energy; | ✓ | | |
| b) the role of the sun in the formation of most energy sources on Earth; | ✓ | | |
| c) nonrenewable energy sources (fossil fuels, including petroleum, natural gas, and coal); | | ✓ | |
| d) renewable energy sources (wood, wind, hydro, geothermal, tidal, and solar); and | ✓ | | |
| e) energy transformations (heat/light to mechanical, chemical, and electrical energy). | ✓ | | |
| **Overall Rating for Standard** | ✓ | | |

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|---|---|---|---|
| | **Adequate** | **Limited** | **No Evidence** |
| 6.3 The student will investigate and understand the role of solar energy in driving most natural processes within the atmosphere, the hydrosphere, and on the Earth's surface. Key concepts include | | | |
| a) the Earth's energy budget; | ✓ | | |
| b) the role of radiation and convection in the distribution of energy; | ✓ | | |
| c) the motion of the atmosphere and the oceans; | ✓ | | |
| d) cloud formation; and | ✓ | | |
| e) the role of heat energy in weather-related phenomena including thunderstorms and hurricanes. | ✓ | | |
| **Overall Rating for Standard** | ✓ | | |

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|---|---|---|---|
| | **Adequate** | **Limited** | **No Evidence** |
| 6.4 The student will investigate and understand that all matter is made up of atoms. Key concepts include | | | |
| a) atoms are made up of electrons, protons, and neutrons; | ✓ | | |
| b) atoms of any element are alike but are different from atoms of other elements; | ✓ | | |
| c) elements may be represented by chemical symbols; | ✓ | | |
| d) two or more atoms may be chemically combined; | ✓ | | |
| e) compounds may be represented by chemical formulas; | | ✓ | |
| f) chemical equations can be used to model chemical changes; and | | | ✓ |
| g) a limited number of elements comprise the largest portion of the solid Earth, living matter, the oceans, and the atmosphere. | | ✓ | |
| **Overall Rating for Standard** | ✓ | | |

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|---|---|---|---|
| | **Adequate** | **Limited** | **No Evidence** |
| 6.5 The student will investigate and understand the unique properties and characteristics of water and its roles in the natural and human-made environment. Key concepts include | | | |
| a) water as the universal solvent; | | | ✓ |
| b) the properties of water in all three states; | ✓ | | |
| c) the action of water in physical and chemical weathering; | ✓ | | |
| d) the ability of large bodies of water to store heat and moderate climate; | ✓ | | |
| e) the origin and occurrence of water on Earth; | ✓ | | |
| f) the importance of water for agriculture, power generation, and public health; and | ✓ | | |
| g) the importance of protecting and maintaining water resources. | ✓ | | |
| **Overall Rating for Standard** | | ✓ | |

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|---|---|---|---|
| | **Adequate** | **Limited** | **No Evidence** |
| 6.6 The student will investigate and understand the properties of air and the structure and dynamics of the Earth's atmosphere. Key concepts include | | | |
| a) air as a mixture of gaseous elements and compounds; | ✓ | | |
| b) air pressure, temperature, and humidity; | ✓ | | |
| c) how the atmosphere changes with altitude; | ✓ | | |
| d) natural and human-caused changes to the atmosphere; | ✓ | | |
| e) the relationship of atmospheric measures and weather conditions; | ✓ | | |
| f) basic information from weather maps including fronts, systems, and basic measurements; and | | ✓ | |
| g) the importance of protecting and maintaining air quality. | ✓ | | |
| **Overall Rating for Standard** | ✓ | | |

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|---|---|---|---|
| | **Adequate** | **Limited** | **No Evidence** |
| 6.7 The student will investigate and understand the natural processes and human interactions that affect watershed systems. Key concepts include | | | |
| a) the health of ecosystems and the abiotic factors of a watershed; | | | ✓ |
| b) the location and structure of Virginia's regional watershed systems; | | | ✓ |
| c) divides, tributaries, river systems, and river and stream processes; | | ✓ | |
| d) wetlands; | ✓ | | |
| e) estuaries; | ✓ | | |
| f) major conservation, health, and safety issues associated with watersheds; and | ✓ | | |
| g) water monitoring and analysis using field equipment including hand-held technology. | | | ✓ |
| **Overall Rating for Standard** | | ✓ | |

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|---|---|---|---|
| | **Adequate** | **Limited** | **No Evidence** |
| 6.8 The student will investigate and understand the organization of the solar system and the relationships among the various bodies that comprise it. Key concepts include | | | |
| a) the, sun, moon, Earth, other planets and their moons, meteors, asteroids, and comets; | ✓ | | |
| b) relative size of and distance between planets; | ✓ | | |
| c) the role of gravity; | ✓ | | |
| d) revolution and rotation; | ✓ | | |
| e) the mechanics of day and night and phases of the moon; | ✓ | | |
| f) the unique properties of Earth as a planet; | ✓ | | |
| g) the relationship of the Earth's tilt and the seasons; | ✓ | | |
| h) the cause of tides; and | ✓ | | |
| i) the history and technology of space exploration. | | ✓ | |
| **Overall Rating for Standard** | ✓ | | |

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|---|---|---|---|
| | **Adequate** | **Limited** | **No Evidence** |
| 6.9 The student will investigate and understand public policy decisions relating to the environment. Key concepts include | | | |
| a) management of renewable resources (water, air, soil, plant life, animal life); | | ✓ | |
| b) management of nonrenewable resources (coal, oil, natural gas, nuclear power, mineral resources); | | ✓ | |
| c) the mitigation of land-use and environmental hazards through preventive measures; and | | ✓ | |
| d) cost/benefit tradeoffs in conservation policies. | | ✓ | |
| **Overall Rating for Standard** | | ✓ | |

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| **Additional Criteria** | **Rating Scale** Please indicate the rating for each by placing a check mark (✓) in the appropriate cell. | | |
|---|---|---|---|
| | **Adequate** | **Limited** | **No Evidence** |
| 1. Safe use of materials and equipment is encouraged. | ✓ | | |
| **Overall Rating for Additional Criteria 1** | | | |
| 2. Materials emphasize the use of effective instructional practices and learning theories.<br>• Students are guided through different approaches such as the learning cycle.<br>• Students are provided the opportunity to conduct scientific inquiry appropriate for their age, grade, and maturity.<br>• Concepts are introduced through concrete experiences.<br>• Students are required to use manipulative materials during investigations and activities.<br>• Multiple opportunities are provided for students to apply concepts.<br>• Learning activities offer opportunities for students to revise their prior knowledge and create new knowledge.<br>• Students are encouraged to pose questions and to identify problems, as well as propose multiple solutions and design and conduct tests of inference.<br>• Students collect and interpret data through a variety of technologies and draw conclusions based on that data. | ✓ | | |
| **Overall Rating for Additional Criteria 2** | ✓ | | |

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| **Additional Criteria** | **Rating Scale** Please indicate the rating for each by placing a check mark (✓) in the appropriate cell. | | |
|---|---|---|---|
| | **Adequate** | **Limited** | **No Evidence** |
| 3. Materials present content in an accurate, unbiased manner, and are based on sound science.<br>• Materials do not contain content errors (omissions of current content, out-of-date content, overgeneralizations, etc.).*<br>• Materials do not contain production errors (misspelled words, word omissions, incorrect answers).*<br>• Diverse groups (racial, ethnic, cultural, linguistic), males and females, people with disabilities, and people of all ages are represented appropriately.<br>• The materials are free of non-scientific explanation. | ✓ | | |
| **Overall Rating for Additional Criteria 3** | ✓ | | |

*Please note that the Department of Education does not certify that all inaccuracies and/or grammatical errors have been detected in this instructional item and reported in this correlation profile.

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|---|---|---|---|
| | **Adequate** | **Limited** | **No Evidence** |
| 4. Materials promote student assessment as an integral part of the instructional process.<br>• Assessment suggestions and scoring criteria for student performances on work such as lab practicals or tasks, concept maps, research projects, observation checklists, etc., are provided.<br>• Assessment items include multiple-choice, short answer, essay and open-ended questions with charts, graphs, and diagrams imbedded within the items.<br>• Options include techniques for assessing students' prior knowledge.<br>• Assessment items reflect the rigor and the intent of the standards. For example, they require students to use higher order thinking skills to apply, analyze, synthesize, evaluate, and make judgments or recommendations. | ✓ | | |
| **Overall Rating for Additional Criteria 4** | ✓ | | |

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|---|---|---|---|
| | **Adequate** | **Limited** | **No Evidence** |
| 5. Materials are presented in an organized, logical manner and are appropriate for the age, grade, and maturity of the students.<br>• Materials are organized appropriately within and among units of study.<br>• Format design includes titles, subheadings, and appropriate cross-referencing for ease of use.<br>• Writing style, length of sentences, and vocabulary are appropriate.<br>• Graphics and illustrations are appropriate.<br>• Level of abstraction is appropriate, and real life examples, including careers are provided.<br>• Sufficient applications are provided to promote depth of understanding. | ✓ | | |
| **Overall Rating for Additional Criteria 5** | ✓ | | |